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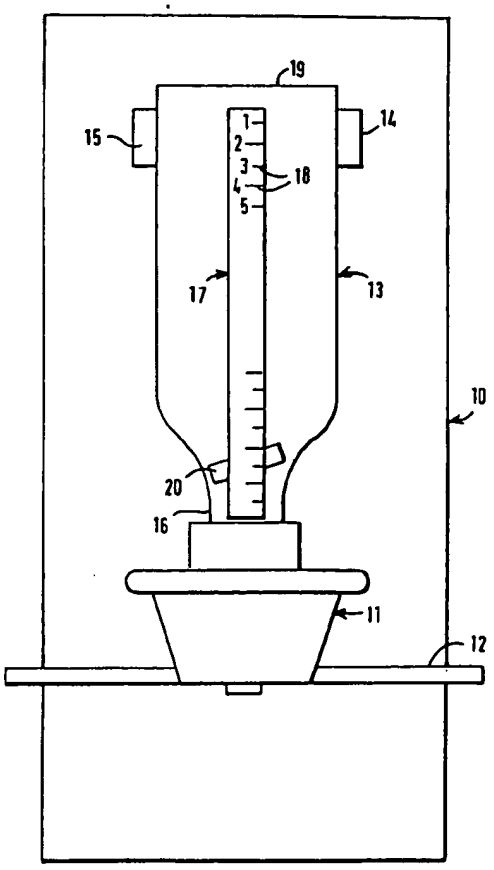
(54) Apparatus for dispensing a liquid, bottle and scale for use in the apparatus

(57) A bottle (13) from which spirits are to be dispensed has a scale (17) on the rear of the bottle. The origin of the scale is remote from the neck (16) of the bottle and the divisions on the scale each correspond to the volume dispensed by a single operation of a dispensing device (11) which communicates with the neck of the bottle.



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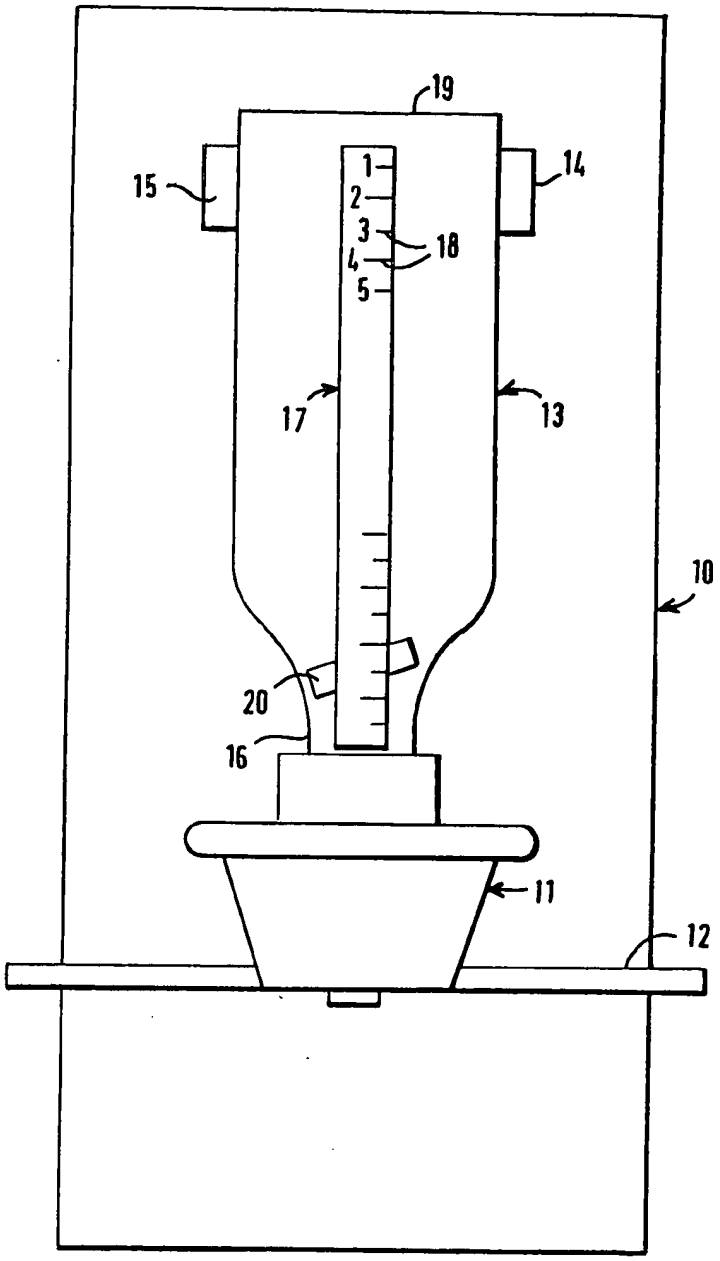

SPECIFICATION

Apparatus for dispensing a liquid, bottle and scale for use in the apparatus

The present invention relates to apparatus for dispensing a liquid and has been devised in connection with apparatus for dispensing beverages, particularly spirits sold by the measure.

There is a requirement for the number of measures of spirit sold from a particular bottle during a selected period to be ascertained easily, in order that a check can be made as to whether all of the spirit dispensed has been paid for.

According to a first aspect of the invention, there is provided apparatus for dispensing a liquid and comprising a bottle containing a supply of the liquid and disposed with a neck of the bottle lowermost, a flow control device engaged with the neck of the bottle, the flow control device being operable, upon application to the device of an appropriate signal, to discharge a predetermined volume of the liquid, which volume is a fraction only of the internal volume of the bottle, and a scale on the bottle, wherein each of the intervals between successive divisions of the scale is such that, in order to move the surface of the liquid in the bottle from one division to the next lower division, there must be discharged from the bottle said predetermined volume of the liquid.

The flow control device may be a known device commonly used in bars in the dispensing of spirits.

Generally, in apparatus in accordance with the first aspect of the invention, at least one division of the scale will be at the neck of the bottle.

According to a second aspect of the invention, there is provided a bottle bearing a scale wherein at least one division is at a neck of the bottle and successive divisions of the scale are so spaced that, when the bottle is disposed vertically with its neck lowermost, respective spaces defined inside the bottle between pairs of horizontal planes coinciding with the divisions of each pair of adjacent divisions have the same volume.

According to a third aspect of the invention, there is provided a set of strips suitable for application to respective bottles to provide a bottle according to the second aspect of the invention, each strip bearing a scale identical with the scales on the other strips and each strip bearing an identification mark different from the identification marks on the other strips.

The identification marks on strips in accordance with the third aspect of the invention enable a supervisor to ascertain easily whether one strip of the set, which has been applied to a bottle, has been removed from the set.

An example of apparatus in accordance with the first aspect of the invention, incorporating a bottle according to the second aspect of the invention and one strip of a set of strips in accordance with the third aspect of the invention will now be described, with reference to the accompanying drawing, which is a diagrammatic representation of the apparatus.

The apparatus illustrated in the drawing comprises a fixed support 10 which would typically be disposed in an elevated position behind a bar. On the support, there is carried a known flow control device 11 having an operating element 12 which is movable upwardly and downwardly relative to the support 10 and which, when liquid is to be discharged from the apparatus into a glass, is engaged by and moved upwardly by the glass (not shown) in a known manner.

The apparatus further comprises a bottle 13 which is typically formed of transport material, generally glass. The bottle is supported by the device 11 and by elements 14 and 15 on the support 10 so that the bottle is releasably held in a vertical orientation with a neck 16 of the bottle lowermost. The device 11 receives a free end portion of the neck 16 in a known manner so that the device can control flow of liquid from the bottle. The bottle is disposed in front of the support 10.

There is provided on the bottle 13 a scale 17 having numbered divisions 18. These divisions and the numbers identifying them are readily visible from the front of the apparatus. The scale 17 is preferably at the rear of the bottle, so that the scale is normally viewed through the bottle and the contents thereof.

The scale 17 may be formed in the glass or other material of which the bottle 13 is formed. Alternatively, the scale may be formed separately from the bottle and mounted thereon, for example by means of an adhesive. In the latter case, the scale is preferably on a flexible strip which, during application of the strip to the bottle, is caused to conform to the shape of the bottle, in particular to follow the curve of the shoulder of the bottle between the neck 16 and the substantially cylindrical part of the bottle.

The origin of the scale 17 is remote from the neck 16 and adjacent to that part 19 of the bottle which is normally termed the bottom of the bottle. The scale is so positioned relative to the bottle that, when a freshly-opened bottle has been engaged with the device 11 and placed on a support 10 in a position illustrated in the drawing, but no liquid has been dispensed from the apparatus, the surface of the liquid in the bottle will coincide with the origin of the scale.

The end of the scale remote from the origin is on the neck 16 of the bottle. It will be noted that at least one and, generally, several of the scale will lie on the neck

16 and/or the shoulder of the bottle.

The spacing of the divisions 18 along the scale 17 is not uniform. At the neck 16 of the bottle, the spacing of the divisions is greater than at the straight-sided part of the bottle. The spacing of each pair of adjacent divisions 18 is such that the space inside the bottle 13 lying between horizontal planes coinciding with those divisions is equal to the volume of liquid dispensed by the device 11 when the operating element 12 is moved upwardly through a single stroke. On each successive occasion when the operating element 12 is moved upwardly, the level of the surface of the liquid in the bottle falls from one division 18 to the next lower division 18.

In a case where the scale 17 is provided on a strip which is adhered to the bottle, a seal 20 is applied over a part of the strip and an adjacent part of the bottle. The arrangement is such that replacement of the strip by a fresh strip will necessarily disrupt the seal in such a manner that the replacement will be readily apparent. Furthermore, the strip may bear an identification number which differs from the identification numbers present on otherwise identical strips to be applied to further bottles having the same size and shape as the bottle 13. It will be understood that bottles of different shapes will require scales with divisions at different spacings.

There may be supplied for use in the apparatus of Fig. 13 a set of strips having divisions 18 at the same spacings but respective different identification numbers. In addition to this set of strips, there may be provided further sets for further bottles (not shown). Within each set, the spacing of the divisions of the scales would be the same but each strip would have a unique identification number. Unique identifying marks other than numbers may be used.

The features disclosed in the foregoing description, or the following claims, or the accompanying drawings, expressed in their specific forms or in terms of a means for performing the disclosed function, or a method or process for attaining the disclosed result, or any combination of such features, be utilised for realising the invention in diverse forms thereof.

CLAIMS

1. Apparatus for dispensing a liquid and comprising a bottle containing a supply of the liquid and disposed with a neck of the bottle lowermost, a flow control device engaged with the neck of the bottle, the flow control device being operable, upon application to the device of an appropriate signal, to discharge a predetermined volume of the liquid, which volume is a fraction only of the internal volume of the bottle, and a scale on the bottle, wherein each of the intervals between successive divisions of the scale is such that, in order to move the surface of the liquid in the bottle from one division to the next lower division, there must be discharged from the bottle said predetermined volume of the liquid.

2. Apparatus according to Claim 1 wherein a part of the scale is on the neck of the bottle.

3. Apparatus according to Claim 1 wherein at least one division of the scale is at the neck of the bottle.

4. A bottle bearing a scale wherein at least one division of the scale is at a neck of the bottle and successive divisions of the scale are so spaced that, when the bottle is disposed vertically with its neck lowermost, respective spaces defined inside the bottle between pairs of horizontal planes coinciding with the divisions of each pair of adjacent divisions have the same volume.

5. Apparatus according to any one Claims 1 to 3 or a bottle according to Claim 4 wherein the scale is an integral part of the bottle.

6. Apparatus according to any one of Claims 1 to 3 or a bottle according to Claim 4 wherein the scale is provided on a strip which is distinct from and is mounted on the bottle.

7. Apparatus or a bottle according to Claim 6 wherein the strip is adhered to the bottle.

8. Apparatus or a bottle according to Claim 6 wherein a seal overlies a part of the strip and a part of the bottle.

9. Apparatus according to any one of Claims 1 to 3 and 5 to 8 or a bottle according to any one of Claims 4 to 8 wherein the scale has an origin at the level of the surface of the liquid in the bottle when the bottle has been inverted but no liquid has been dispensed from the bottle.

10. A set of strips suitable for application to respective bottles to provide a bottle according to Claim 4, wherein each strip bears a scale identical with the scales on the other strips and each strip bears an identification mark different from the identification marks on the other strips.

11. Apparatus substantially as herein described with reference to the accompanying drawing.

12. Any novel feature or novel combination of features disclosed herein or in the accompanying drawing.

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